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ABSTRACT

A brief review of recent demands and trends in adult education for nontraditional students is followed by a discussion of the design and purpose of audiocassette programs offering full and transferable college credit toward a degree. The development of audio courses is traced from the Ohio School of the Air, presented on radio in 1929, to the present, and the current program at West Virginia Wesleyan College is described. A review of the literature on the effectiveness of audio instruction concludes the paper, and a 17-item bibliography is attached. (MER)

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AUDIO ALTERNATIVES FOR LEARNING

A Concept Paper

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Education is a necessity of life; it develops cognitive perspective and helps in a cross-fertilization of knowledge in many different areas. Education is a process of growth, through it individuals reconstruct, transform, reorganize and change in relation to the environment (4,50). Education is not a finite experience, instead it is an ongoing process. It continually assists an individual, throughout his life, to identify and develop his various interests and potential. Adults in ever increasing numbers are becoming more aware of the value education holds for their own benefit, and once again are turning to the schools for help, guidance, and knowledge. As a result, program innovations have increased in the areas of continuing education, adult education, life-long learning, part-time study, etc. For many of these adults, enrichment learning has not been enough. Now, there is a tremendous demand for college level work for credit and toward a degree. In response to this need specific programs geared to the adult student have been organized like: Weekend College, University Without Walls, Extended Campus, and Television College. One of the most successful of the adult education programs has been termed "Outreach Education" and is organized completely around an audio curriculum of study.

Essentially a "college without walls," this audio curriculum provides earned college credit, applicable toward a degree, for adults classified as "non-traditional students." In 1973, the Ford Foundation Telecommunications Task Force reported, "the goal of education should be to provide the access and

opportunity to any individual who wants an education for whatever reason...the individual, and not the educational institution, should be at the center of the learning process (9, 24)." The desire of adults to continue their education and the position of the Ford Foundation then form the basis for the existence of an audio curriculum or an "audio college."

Audio courses easily provide an education to non-traditional students; those adults who cannot come to campus classes for a variety of reasons: handicaps, geographic isolation, the family-supporting or working adult, those who have special family committments, financial difficulties, etc. The number of reasons can vary with the number of potential students, but they all have one important factor in common - a desire to learn. Individuals, through audio courses, are able to improve their chances of promotion, change careers, or simply enrich their lives (7, 191). Thus, the non-traditional, the non-dormitory campus student is defined and must be served in such a manner that unfair burdens and demands are not placed upon him and that the quality and requirements of regular courses are not compromised merely to reach him.

Before proceeding, a brief explanation of an audio curriculum operation would be helpful. "The challenge of open (or non-traditional) education...is to bring the institution to the people rather than the people to the institution (5, 37)." As was stated earlier, the trick is to do so without the sacrifice or watering down of course material that might otherwise be secured in on-campus instruction. The careful design, planning, and production of course tapes to adapt lecture,

discussion, assignments, and test materials to a self-paced learning situation is imperative. In fact, it is the planning stage of the course that takes on greatest importance. Once planned and recorded, the tapes (whether distributed physically or used in a broadcast mode) are combined with text and assignment material. The course is then given to "enrolled" students for a semester usually lasting twelve weeks. The student is given complete freedom to pace his learning to suit his style, ambition, or intertwine it with his regular daily routine. Courses are not completely independent, the student does interact on a regular basis with the course instructor. They can keep in touch through a variety of methods: telephone, letter, visits, etc. During the semester there are several "formal" interactions when assignments are submitted, graded and returned, or, when tests are administered and returned. Ample opportunity exists for an individual to ask questions and discuss ideas, whether it be informal or formal. In as much as possible, this audio curriculum attempts to expose a student to situations,information, and learning experiences equal to that of the on-campus version of the course.

Certainly adult education is not a new concept, just one that has had recent phenominal growth. In fact, the audio curriculum idea, even for college courses, dates back to the first days of radio, again, it is just beginning to grow. In 1929, the "Ohio School of the Air" was the first attempt at using audio mediums in instruction (15, 197). Just a few years later, the Wisconsin Research Project studied the strengths

and weaknesses of audio instruction for the first time. The project found that "audio learning, at various grade levels, was not significantly different than traditional classroom instruction. While these results may not promote (audio) as a better means of instruction, they do seem to indicate that it is at least as effective (15, 314)." More discussions of research findings as to the effectiveness of audio instruction will follow shortly. First, it is important to examine some of the reasons why an audio curriculum is a viable alternative to classroom instrucion.

"At a time when many institutions of higher learning are concerned about declining enrollments, public interest in post-secondary study through non-traditional means appears to be growing (5, 37)," the audio curriculum provides an efficient and cost effective way to reach these students. Presently, one out of every five adults is enrolled in some form of education or training; one-third of all college students are now older than the traditional 18-22 year old (1,1). In addition to the extended access of courses to a non-traditional student, audio curriculums are a time saver (in travel, for students as well as instructors,) a money saver (reducing travel expense, programs are inexpensive to produce, and generally, tuition for courses of this nature are less expensive than the classes on-campus,) equipment is easy to use, in-expensive, easily portable, and provides the ability to replay tapes (making courses even more individualized and self-paced than broadcast courses) (14, 31).

Over the years, audio instruction has been cited many times for its ability to stimulate the imagination, challenging a student to listen and draw mental pictures. The National Association of Broadcasters describe (audio) as a "theater of the mind," a medium that demands creative participation. Audio also develops listening skills, "practice in listening skills can help students become more adept at recalling, making inferences, critically analyzing and summarizing what was heard (3, 36). Audio instruction also shares some advantages with other technological systems of learning in that it allows the involvement of experts and authorities in the learning process, flexability of use, and timeliness of the program content (as opposed to a lengthy turn-around time for the publication of print material) (3, 37). Audio can provide students with a sense of realism and participation which can serve as a stimulus for learning. It can also combine artistic elements in a dramatic form to create an emotional impact which heightens instructional effectiveness (6, 4).

Some research has been done to determine the characteristics of adult learners and their reaction to learning via a mediated instructional program. "Adult learners (it was shown,) reacted positively to the new mediated approaches to providing college lesson materials. There was, however, enough variation in responses to suggest that key personal characteristics were related to acceptance and achievement...this suggests that design and production of lesson materials for an open learning system...will need to consider the specific nature of the target

population, and their (varied) interests and backgrounds (2, 2)." "Given this (poorly defined) set of learner characteristics, what is the best way to tailor instruction for these (various) types of learners (8, 248)?"

Salomen noted that instructional treatment should capitalize on what the student is already capable of doing. In a study, Kroll stated that listening is what any student is already capable of doing (and under a wide variety of environments and circumstances.) "This is probably why audio instruction, commercially prepared or teacher prepared recordings, is increasingly being used to communicate substantial portions of curriculums (8, 248)."

"Listening to an audio cassette demands even more than "live" listening because the listener has no visual clues to guide and even complement the message. Audio leaves out the physical environment, the facial expressions, gestures, bodies, dress and mannerisms which communicate identity, mood or feeling. Audio, does, of course, compensate for what's left out by what's emphasized and implied. If you do manage to listen, you'll think about language, and notice how intonation, hesitation, and vocal variety all shape what the words actually convey. Even so, just as blind people cannot take in the beauty of a silent sunset, so, too, "listeners" who lend only half an ear will not appreciate the ways that audio's formal characteristics affect the message, and help create its content. In order to reach this level of awareness, we must all prick up our ears and learn to listen more closely (10, 1)." Dorothy

Louise, in the above statement presents an excellent rationale for audio learning, a description of how it works, and a warning that applys to most all learning situations, including audio.

So much for the praises of audio learning. Does it work? Is it effective? How does it compare to other forms of learning? "Research from the golden days of radio demonstrated radio's ability to teach. Current research documents...(the) continuing ability (of audio) to teach efficiently, effectively, and economically...the key to success is a one-to-one approach in the instruction and the use of sound to enhance listener interest in the program...(15, 4)." H.L. Eubank (1930) concluded that current events lessons supplemented with school broadcasts were more effective than those taught by a teacher without radio. L. Breuer (1939) found that elementary children who used a radio as part of a science course learned significantly more (in a measurement test) than the control group (without the use of radio instruction.) M. Kimball Wiles (1940) found that students learned more about current events by listening to radio news broadcasts than they did studying the same events in the classroom. Moving more toward strictly audio instruction (rather than via radio,) Carl H. Ketchan and Robert N. Heath (1962) found no significant differences in measured learning between two college education classes, one taught "live" and one taught via recorded lectures (3, 38).

Popham (1961,62), Menne, Hannum, Klingensmith and Nord (1969), were three of the first and most rigorous studies

dealing with the effectiveness of audio instruction. All compared taped lectures with live lectures on college students and found no significant difference in achievement. In studies comparing the effectiveness of learning by reading versus audio lectures, "Hampleman, 1955; King, 1959; Belgum, 1967; Brassard, 1968' Breker, 1968; Hasselrus, 1968;... Gray, 1958; Houk, 1965; Sandes, 1970; Sander and Glass, 1970; Schulz, 1969; and Waterman et al., 1971...generally concluded...that there was little or no difference between listening and reading as methods of learning at the college level (8, 251)."

Forsythe (1970) conducted experimental studies comparing audio teaching with various means or media of teaching, and found audio as effective as other methods (3, 41). Chu and Schramm, in 1967, dispelled the "myth" that a picture is worth a thousand words. They concluded from their research that unless pictures are used to teach a manual task or required to facilitate associations, they may cause distractions and interfere with learning. This study seemed to partially support research by Travers (1964) who concluded that when confronted by more than one sensory channel of information, a person will block out all but one...channel.

Often, the use of audio as a sole means of instruction is questioned on the grounds that the ear is not the most efficient channel of communication. Carver, in a series of seven experimental studies, used 39 Harvard undergraduates and 52 adults to investigate the relative effectiveness of auditory and visual presentations of identical material. He

found, "the effectiveness of an auditory presentation is limited to meaningful material (as opposed to nonsense syllables,) and tends to be superior for subject matter that is concrete and serial in nature. If other conditions are constant, the mental functions of recognition, verbatim recall, and suggestibility seem more effectively aroused in listening ... (6, 9)."

Although available research is limited and sketchy, studies all seem to indicate a definite effectiveness of audio instruction and its being at least equal to other forms or methods of teaching. The implication then, is that an adult educated through this approach, although structured very non-traditionally and flexible, is receiving an education equal to that found by full time students in the classrooms of a college campus. Many forms of external education using technological bases have been found to be effective, in particular television instruction. The prime detractors from this method are production needs, facilities and costs, all of which are massive. In addition, students are "tied" to a television set in a fixed location on a fixed broadcast schedule. Audio instruction is more economical thus allowing more institutions to extend their instruction to more adults, and seems to be a more flexible and creative medium for the student to use.

Audio learning in open universities and colleges without walls has been in existence for some time in foreign countries. Programs that have met with tremendous success exist in Kenya,

Guatemala, Guyana, Nepal, and in the U.S.S.R.; in Great Britian, the BBC has taught the world English since 1939; and the Open University concept in Israel is a model now being emulated in several countries. Recently, the colleges and universities of the United States have found that the flashy and expensive telecourses, off-campus centers, and branch campuses are no match for audio courses. Just in recent years, large, quality audio instruction college programs have been developed at Indiana University, University of Iowa, Purdue, West Virginia Wesleyan College, Michigan State, University of Wisconsin, Rutgers, Norfolk Consortium for Higher Education, and San Diego State University. Nearly 23 colleges have smaller programs and almost 97 have plans to begin one soon.

John Dewey spoke of knowledge, not as a set of specific items of information or conditions, but as all experiences that will give an individual command of himself. Education should provide the tools for a person to grow, and to continue to do so throughout life, and "to escape the social group into which he was born." A person is free to become, and will become, what he must. There is no mold, no destiny, only self-growth, development, and discovery. Since this philosophy of education revolves about the individual, education cannot hamper, but must facilitate, this growth. An audio curriculum provides a conducive, flexible environment for learning, allows an individual to grow and learn in ways that are not "traditional," and still maintains valuable experiences necessary to learning (which formerly were thought could only

exist in the classroom.) An audio curriculum is a tailored approach to a college education for an ever increasing number of "special" adults desiring to further their learning. This group of individuals has an equal right to that of children, to have a curriculum that is worthwhile and meaningful, but special, with regard to their different needs, previous life experiences, and current life style and demands.

Although somewhat incomplete, research in audio instruction has determined that individuals can learn as much as through other modes of instruction - providing that objectives and experiences are defined in terms appropriate to the special audience, and that the limitations of the medium are recognized. The future of an individual, and society, is directly related to the educational experiences offered and encountered during life. An idea, an answer, an aid, seems to be an audio curriculum designed for the non-traditional adult student. "(Audio) eschews the techniques and disciplines of formal education. It challenges those who have had formal education to recognize that similar ends may be achieved by different means (11, 413)."

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